## WHAT IS CLAIMED IS:

1. A feedforward equalizer (FFE) of a communication system comprising:

an adaptive filter for filtering a receiving signal according to a transfer function including a plurality of adjustable constants to eliminate a pre-cursor inter-symbol interference (pre-ISI) of the receiving signal; and

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a digital auto-gain controller (DAGC) coupled to the adaptive filter for adjusting the magnitude of the filtered receiving signal according to the transfer function;

wherein the adjustable constants includes a main-tap and the value of the main-tap is predetermined.

- 2. The FFE as claimed in claim 1, wherein the adjustable constants further includes a first adjustable constant adjacent to the main-tap and the value of the first adjustable constant is predetermined.
- 3. The FFE as claimed in claim 1, wherein the main-tap is predetermined to be 1.
- 4. The FFE as claimed in claim 1, wherein the transfer function is  $C_0Z^3 + C_1Z^2 + C_2Z^1 + C_3 + C_4Z^{-1} + C_5Z^{-2} + C_6Z^{-3}$ , wherein  $C_0$ ,  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$ ,  $C_5$ , and  $C_6$  are adjustable constants, Z is a delay element, and  $C_3$  is the main-tap.
- 5. The FFE as claimed in claim 4, wherein  $C_3$  is predetermined to be 1.
- 6. The FFE as claimed in claim 4, wherein  $C_4$  is predetermined to be -0.5.

7. A transceiver of a communication system, comprising:

a front-end receiver for receiving a receiving signal and converting to a first signal with a pre-cursor component and a post-cursor component;

a noise canceller coupled to the front-end receiver 10 for generating a second signal through eliminating the noise of the first signal;

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a Feed-Forward Equalizer (FFE) coupled to the noise canceller for generating a third signal through eliminating the pre-cursor component in the second signal according to a transfer function including a plurality of adjustable constants, wherein the adjustable constants includes a main-tap and the value of the main-tap is predetermined; and

a decoding system coupled to the FFE for decoding the third signal and eliminating the post-cursor component in the third signal.

- 8. The transceiver as claimed in claim 7, wherein the adjustable constants further includes a first adjustable constant adjacent to the main-tap and the value of the first adjustable constant is predetermined.
- 9. The transceiver as claimed in claim 7, wherein the main-tap is predetermined to be 1.
- 10. The transceiver as claimed in claim 9, wherein the FFE further includes a digital auto-gain controller (DAGC) for adjusting the magnitude of the third signal according to the transfer function
- 11. The transceiver as claimed in claim 7, wherein the transfer function is  $C_0Z^3 + C_1Z^2 + C_2Z^1 + C_3 + C_4Z^{-1} + C_5Z^{-2} + C_6Z^{-3}$ , wherein  $C_0$ ,  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$ ,  $C_5$ , and  $C_6$  are adjustable constants, Z is a delay element, and  $C_3$  is the main-tap.

- 12. The transceiver as claimed in claim 11, wherein  $C_3$  is predetermined to be 1.
- 13. The transceiver as claimed in claim 12, wherein  $C_4$  is predetermined to be -0.5.

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